



## TRAFFIC SIGNALS FIELD SECTION 902

**902.1 SCOPE.** To establish procedures for inspection and reporting of those items specified in Specification Sec 902 for which the Materials Division has inspection responsibility and which are not specifically covered in Materials Details of the Specifications. This Section is to complement the Construction Manual, Sec 900.

### 902.2 APPARATUS.

- (a) Magnetic gauge, reading range of 0-40 mils [0-1000  $\mu\text{m}$ ].
- (b) Rule with suitable graduations to accurately measure the material to be inspected.

**902.3 PROCEDURE.** The items for traffic signals normally inspected by the Materials Division are galvanizing of steel posts and anchor bolts and nuts.

**902.3.1** Field determination of weight [mass] of coating is to be made on each lot of material furnished. The magnetic gauge is to be operated and calibrated in accordance with ASTM E376. At least three members of each size and type offered for inspection are to be selected for testing. A single-spot test is to be comprised of at least five readings of the magnetic gauge taken in a small area and those five readings averaged to obtain a single-spot test result. Three such areas should be tested on each of the members being tested. Test each member in the same manner. Average all single-spot test results from all members to obtain the average coating weight [mass] to be reported. The minimum single-spot test result would be the minimum average obtained on any one member. Material may be accepted or rejected for galvanized coating on the basis of magnetic gauge. If a test result fails to comply with the specifications, that lot should be resampled at double the original sampling rate. If any of the resample members fail to comply with the specification, that lot is to be rejected. The contractor or supplier is to be given the option of sampling for Laboratory testing, if the magnetic gauge test results are within minus 15 percent of the specified coating weight [mass].

**902.3.2** Bolts and nuts specified to meet the requirements of ASTM A307 shall be accompanied by a manufacturer's certification statement that the bolts and nuts were manufactured to comply with the requirements of ASTM A307. If the specifications require the bolts and nuts to be galvanized, the manufacturer's certification shall also state the nuts and bolts were galvanized to comply with the requirements of AASHTO M232 or state that they were mechanically galvanized to comply with the coating thickness, adherence, and quality requirements of AASHTO M232, Class C. Anchor bolts and nuts or high strength bolts and nuts except AASHTO M164, shall be accompanied by a test report certified to be representative of the mechanical tests for each size in each shipment. M164 bolts shall be accompanied by a manufacturer's inspection test report for each production lot or shipping lot furnished, and certifying that the bolts furnished conform to the requirements specified. The inspector shall carefully examine the certifications to insure that they are applicable and show conformance with Specification Sec 902.3. All bolts, nuts, and washers are to be identifiable as to type and manufacturer. Bolts, nuts, and washers manufactured to meet ASTM A307 will normally be identified on the packaging since no special markings are required on the item. High strength bolts and nuts require special marking on the item. The specified AASHTO or ASTM is to be consulted for the required identification marks on high strength bolts and nuts. Dimensions are to be as shown on the plans or as specified. Weight [Mass] of zinc coating, when specified, is to be determined by magnetic gauge in the same manner as described in paragraph 902.3.1 of this Section except a smaller number of single-spot tests will be sufficient. Samples for Laboratory testing are only required when requested by the Division Engineer, Materials, or when field inspection indicates questionable compliance. When samples are taken, they are to be taken at the frequency and of the size shown in [Table 2 of Field Sec 1040](#) of this Manual.



**902.4 REPORT.** The report shall indicate acceptance, qualified acceptance, or rejection. Appropriate remarks, as described in [General Sec 7.1.2](#) of this Manual, are to be included in the report to clarify conditions of acceptance or rejection. Distribution of reports for materials purchased under a Department purchase order is to be as described in [Field Sec 2001](#) of this Manual.

**902.4.1** Tests for weight [mass] of coating are to be reported on Form T-739. If a sample is submitted to the Laboratory for testing, Form T-739 is to be used as an identification sheet and shall be completed and signed. The Laboratory will perform the designated tests, complete the report form, and distribute the necessary copies. If the tests are performed in the field, strike out "Materials Engineer" and substitute the inspector's title. The inspector shall then sign the report. Distribution of the field report is to be per Class A of [General Sec 7.1.7.1](#).

